



March 20, 2013

1516 Ninth Street
Hearing Room A – First Floor
Sacramento, California 95814

10 a.m.

(Wheelchair Accessible)

THE COMMISSION WILL CONSIDER THE FOLLOWING ITEMS:

1. **CONSENT CALENDAR.** (Items on the Consent Calendar will be taken up and voted on as a group. A commissioner may request that an item be moved and discussed later in the meeting.)
 - a. **MACRO INTERNATIONAL.** Possible approval of Amendment 1 to Contract 600-10-011 with Macro International for a nine month no-cost time extension to complete a survey that will collect data on both revealed and stated vehicle preferences of California household and commercial LDV fleet owners, and estimate vehicle choice models for both household and commercial sectors. The Energy Commission vehicle survey is coordinated with a Caltrans travel survey to integrate vehicle and travel survey data for California households. This amendment will also update the terms and conditions. (ERPA funding) Contact: Aniss Bahreinian.
 - b. **LOCAL GOVERNMENT COMMISSION.** Possible approval of Amendment 3 to Contract 400-10-004 with the Local Government Commission for a three month no-cost time extension for the Evaluation, Measurement and Verification (EM&V) "data warehouse" subtask. (ARRA funding) Contact: Adrian Ownby.
 - c. **SAN FRANCISCO MAYOR'S OFFICE OF HOUSING.** Possible approval of Amendment 3 to Contract 400-09-019 with the San Francisco Mayor's Office of Housing for a 12 month no-cost time extension for the continued administration of Bay Area Multifamily Fund Program. The program provides financing through a revolving loan fund for energy efficiency and renewable generation retrofits of affordable multifamily housing buildings in the Bay Area. This amendment will ensure that the Energy Commission can still enforce the DOE requirements for the revolving loan fund aspects of the contract through April 30, 2014. (ARRA funding) Contact: Adrian Ownby.
 - d. **STANFIELD SYSTEMS, INC.** Possible approval of a no-cost time extension (Amendment 2) to the Dynamic Simulation Transportation Energy Model (DynaSim) Software Support and Maintenance Contract 10-409.00-004. The end date will be changed from April 25, 2013, to December 31, 2013. This extension will ensure consistency in technical support services during the 2013 IEPR forecasts. (ERPA funding) Contact: Laura Graber.

- e. MATHWORKS. Possible approval of Purchase Order 12-445.01-012 for \$21,520 for renewal of five existing MatLab site licenses and the purchase of two additional individual MatLab software license packages. Software is necessary for staff to manage, modify, and fully utilize the recently developed transportation energy demand forecasting modeling system, DynaSim, which utilizes several MatLab executables as the primary computational core. (ERPA funding)
Contact: Laura Graber.
- f. CITY OF CUPERTINO. Possible approval of the City of Cupertino's locally adopted building energy standards to require greater energy efficiency than the *2008 Building Energy Efficiency Standards*. Contact: Joe Loyer.
- 2. ENERGY COMMISSION COMMITTEE APPOINTMENTS. Possible approval of appointments to the Energy Commission's Standing Committees and Siting Case Committees. Contact: Kevin Barker. (5 minutes)
- 3. PUBLIC INTEREST ENERGY RESEARCH (PIER) 2012 ANNUAL REPORT. Possible approval of the PIER 2012 Annual Report to the Legislature.
Contact: Laurie ten Hope. (15 minutes)
- 4. UNIVERSITY ENTERPRISES, INC. (AUXILIARY ORGANIZATION TO CALIFORNIA STATE UNIVERSITY, SACRAMENTO). Possible approval of Amendment 1 to Contract 500-09-039 with University Enterprises, Inc. to add \$1.4 million, extend the contract term by 20 months to March 31, 2015, and include changes to update the terms and conditions. This amendment will also modify the scope of work and budget to update existing tasks and add three projects: Customer Premise Network Design and Testing, Cyber Security Issue Identification, and Simulations of Distributed Generation Impacts on the Distribution System. (PIER electricity funding)
Contact: Consuelo Sichon. (5 minutes)
- 5. DELTA DIABLO SANITATION DISTRICT. Possible approval of Amendment 1 to Contract 500-10-034 with Delta Diablo Sanitation District to provide a 24 month time extension to March 31, 2015, revise the scope of work to reflect a new technology for converting biosolids to energy, change subcontractors, make budget reallocations, and update the terms and conditions. (PIER electricity funding) Contact: Rizaldo Aldas.
- 6. TRUSTEES OF THE CALIFORNIA STATE UNIVERSITY. Possible approval of the 20 highest ranking grant applications totaling \$1,815,274 from the PIER program's Energy Innovations Small Grant Solicitation 12-01. There are three projects totaling \$276,420 under Transportation Electricity, two projects totaling \$188,177 under Transportation Natural Gas, six projects under Natural Gas totaling \$540,928, and nine projects under electricity totaling \$809,749. (PIER electricity and natural gas funding)
Contact: Raquel E. Kravitz. (10 minutes)
 - a. Transportation Electric (12-01TE)
 - i) Adromeda Power LLC, Costa Mesa, CA, *INCEPTIVE - Adaptive Electric Vehicle Fast Charging Station*, \$95,000. This project is to determine the feasibility of using a fast charging station with alternative power for electric vehicles and demand response to avoid or reduce peak demand fees.
 - ii) University of California Davis, Davis, CA, *New Portable Electricity Storage Units Using Nanostructured Supercapacitors*, \$86,420. This project is to determine the feasibility of developing a processing method using vacuum filtration to significantly increase its energy storage capacity.

- iii) Tour Engine, Inc., San Diego, CA, *Tour Engine: High Efficiency Split-Cycle Engine for BEVx Applications*, \$95,000. This project is to determine the feasibility of a new crossover valve that will enable a 20 percent increase in efficiency.
 - b. Transportation Natural Gas (12-01TNG)
 - i) SolidMasters, Fullerton, CA, *Crashworthy Subframe CNG Freight and Passenger Locomotive Fuel Tank Enclosure*, \$93,218. This project is to determine the feasibility of using under frame mounted CNG tanks in safety enclosures that meet current Federal Railroad Administrative side impact and derailment crash safety guidelines.
 - ii) C/e Solutions, Inc., West Sacramento, CA, *Biodiesel Production via Poly Functional Reactive Distillation*, \$94,959. This project is to determine the feasibility of simplifying biodiesel production into a single, cost-effective unit.
 - c. Natural Gas (12-01G)
 - i) University of California, Berkeley, Berkeley, CA, *Achieving High Efficiency Through Solid State Microwave Assisted Spark Plugs*, \$95,000. This project is to determine the feasibility of using microwave enhanced spark ignition to allow leaner combustion that will result in increased efficiency and reduce harmful emissions.
 - ii) Rhotech Solar, South San Francisco, CA, *Low Cost Glazed Polymer Solar Water Heater*, \$66,300. This project is to determine the feasibility of adding a glazing layer to improve thermal performance by at least 70 percent for heating domestic water.
 - iii) San Diego State University, San Diego, CA, *Electroporation of Algal Biomass to Enhance Methane Gas Production*, \$95,000. This project is to determine the feasibility of using electroporation as a pretreatment method for algal biomass used as a feedstock for anaerobic digesters to increase methane gas yield.
 - iv) University of California San Diego, San Diego, CA, *Improved Energy Efficiency of Natural Gas/Producer Gas Fuel Mixtures*, \$95,000. This project proposes to use commercial software to gather existing data on engine performance and run it through a neural network model looking to reduce carbon emissions.
 - v) Humboldt State University, Humboldt, CA, *Waste Heat Reformation of Renewable Feedstocks to Offset Natural Gas*, \$94,993. This project is to determine the feasibility of using biomass to convert waste heat energy into chemical energy.
 - vi) Olsen, Rolf, Individual, San Diego, CA, *Two-Track Heat Storage: Very Hot Solar Thermal Storage*, \$94,635. This project is to determine the feasibility of adding new fluid flow devices into packed bed heat storage units to make heat storage units that can integrate with utility scale solar thermal power plants at low cost and across a wide range of temperatures, including those too high for state-of-the-art molten salt heat storage.

- d. Electrical (12-01E)
 - i) NegaWatt Consulting, Inc., San Diego, CA, *HVAC Management System with Dynamic Energy and Demand Optimization*, \$95,000. This project is to determine the feasibility of a cost-effective control system and strategy for buildings with multiple package unit HVAC systems that reduce either peak demand and energy consumption or operating costs by at least 10 percent.
 - ii) Torrey Hills Technologies LLC, San Diego, CA, *Enhanced Light Extraction of LEDs Through Ultra-Fast Laser Nano-Fabrication*, \$94,954. This project is to increase the amount of light given off from LEDs and reduce the manufacturing costs by applying more effective material to LEDs.
 - iii) Nano Hydrophobics, San Francisco, CA, *Cooling Tower Fouling Prevention through Surface Modification of Fill Media*, \$95,000. This project is to determine the feasibility of improving evaporative cooling tower efficiency by up to 30 percent through the development of nano-scale polymeric coatings.
 - iv) University of California, San Diego, San Diego CA, *Static/Dynamic Compilation for QoS and Energy Efficiency in Datacenters*, \$95,000. This project is to design and develop an effective software system to improve data center energy efficiency by improving server utilization.
 - v) Bioenno Tech, LLC, Santa Ana, CA, *High Performance Lithium-Ion and SIC-Based Powerpack for Renewable Energy*, \$95,000. This project is to determine the feasibility of designing a powerpack made up of a lithium-ion battery with battery management, and a silicon carbide based inverter to improve energy efficiency and reliability for residential and commercial renewable energy applications.
 - vi) Sun Synchrony, Alameda, CA, *Tracking Optimization of Self-Orienting High-Concentrating Photovoltaic Elements*, \$95,000. This project is to determine the feasibility of building a low-cost solar tracker with higher tracking precision.
 - vii) InterPhase Solar, Moorepark, CA, *Crystallization of Electrodeposited CIS Thin Films on Flexible Foil*, \$95,000. This project is to develop a pulsed laser annealing tool to crystallize thin films of Cadmium Indium Selenide (CIS) solar cells to increase the efficiency and lower the cost.
 - viii) Butler Sun Solutions, Solana Beach, CA, *Optimum Design of SOE for Concentrating Photovoltaics*, \$94,900. This project is to determine the feasibility of a new Secondary Optical Element (SOE) design for use in concentrating photovoltaic systems that will increase the daily-generated energy by more than five percent and lower the levelized cost of energy by more than four percent.
 - ix) EZ Green, Foster City, CA, *Low-Cost Energy Management System for Small Commercial Buildings*, \$49,895. This project is to determine the feasibility of a low-cost energy management system that provides sufficient energy savings to result in a payback period of less than one year for small commercial buildings.
7. BUSTER BIOFUELS, LLC. Possible approval of agreement ARV-12-035 with Buster Biofuels, LLC for a grant of \$2,641,723 to convert a 7,300 square foot industrial

warehouse building into a biodiesel facility for fueling company fleet vehicles, and the processing and manufacturing of biodiesel. Buster Biofuels will produce American Society for Testing and Materials (ASTM)-quality biodiesel from waste-based feedstocks, primarily using cooking oil. The benefits of this project will include the reduction of an estimated 32,000 tons of GHG emissions annually. (ARFVTP funding) Contact: Andrew Hom. (5 minutes)

8. ~~ZEACHEM INC. Possible approval of agreement ARV-12-034 with ZeaChem Inc. for a grant of \$4,664,657 for both a pilot manufacturing plant to produce lab-scale quantities of a new low carbon bio-based gasoline blendstock from poplar trees, which are known to have the lowest carbon intensity among trees, and a comprehensive report on a feasibility study for a potential commercial-scale biorefinery in Northern California. (ARFVTP funding) Contact: Akasha Kaur Khalsa. (5 minutes)~~ (Moved to May 8 agenda.)
9. MOTIV POWER SYSTEMS, INC. Possible approval of agreement ARV-12-032 with Motiv Power Systems, Inc., for a grant of \$2,379,050 to design and bring up a pilot production line capable of assembling 20 Motiv electric Power Control Systems (ePCS) per month. The ePCS is a collection of five electronic components that, when combined with existing batteries and motors, can be installed in truck/bus chassis, providing a zero-emission rechargeable power train for manufacturers. Matching funds total \$7,137,153. (ARFVTP funding) Contact: Barry McLeod. (5 minutes)
10. ALTERNATIVE FUEL VEHICLE BUY-DOWN INCENTIVES. Possible approval of a total of \$560,000 in vehicle buy-down incentive reservations. (ARFVTP funding). Contact: Andre Freeman. (5 minutes)
 - a. A-Z BUS SALES, Inc. (OEM – Blue Bird Corporation) (BDIR-12-20) in the amount of \$500,000 for the buy-down of 25 propane school buses of 14,001 pounds gross vehicle weight and greater.
 - b. TRANS WEST TRUCK CENTER (OEM – Ford Motor Company) (BDIR-12-21), in the amount of \$24,000 for the buy-down of four propane vehicles of 8,501 to 14,000 pounds gross vehicle weight.
 - c. BIG VALLEY FORD, INC. (OEM –Ford Motor Company) (BDIR-12-22), in the amount of \$36,000 for the buy-down of six propane vehicles of 8,501 to 14,000 pounds gross vehicle weight.
11. **Minutes:** Possible approval of the February 28, 2013, Business Meeting Minutes.
12. **Lead Commissioner or Presiding Member Reports.** A Lead Commissioner on a policy matter may report to the Commission on the matter and discussion may follow. A Presiding Member on a delegated committee may report to the Commission on the matter and discussion may follow.
13. **Chief Counsel's Report:** The Energy Commission may adjourn to closed session with its legal counsel [Government Code Section 11126(e)] to discuss any of the following matters to which the Energy Commission is a party:
 - a. *In the Matter of U.S. Department of Energy (High Level Waste Repository)*, (Atomic Safety Licensing Board, CAB-04, 63-001-HLW).
 - b. *BNSF Railway Company v. US Department of Interior, California Energy Commission* (U.S. District Court Central District of California-Riverside, CV 10-10057 SVW (PJWx)).

- c. *Richard Latteri v. Energy Resources, Conservation and Development Commission, et al.* (Sacramento County Superior Court, 34-2011-99985).
- d. *Rick Tyler, et al v. Governor of California, Edmund G. Brown, Jr., et al.* (Alameda County Superior Court, RG12619687).
- e. *California Unions for Reliable Energy v. Energy Resources Conservation and Development Commission, Real Parties in Interest Ormat Nevada, Inc., ORNI 18 LLC, and ORNI 19 LLC* (Alameda County Superior Court, RG 12610669).
- f. *Asphalt Roofing Manufacturers Association v. California Energy Commission* (Sacramento County Superior Court, 34-2012-80001195).
- g. *California Independent System Operator Corporation* (Federal Energy Regulatory Commission, Docket No. ER12-2634).
- h. *Southern California Edison v. California Public Utilities Commission (Real Party in Interest, California Energy Commission)* (2nd District Court of Appeal Nos. B246786 and B24762)

The Energy Commission may also discuss any judicial or administrative proceeding that was formally initiated after this agenda was published; or determine whether facts and circumstances exist that warrant the initiation of litigation; or that constitute a significant exposure to litigation against the Commission.

14. **Executive Director's Report.**

15. **Public Adviser's Report.**

16. **Public Comment:** People may speak up to five minutes on any matter concerning the Energy Commission, with the exception of items appearing elsewhere on this agenda or items related to pending adjudicative (certification or enforcement) proceedings.

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Adjournment of Hearings and Meetings: Depending upon time available and the orderly management of proceedings, the Commission may order adjournment (recess or postponement) of any noticed hearing or meeting, to be continued to the next day, another specific date or time, or to the next business meeting, as appropriate. Any such adjournment will be noticed at the time the order of adjournment is made (Government Code §§11128.5, 11129).